

C L A I M S

1. A device to operate a laboratory microchip (42) with a microfluid structure for
5 chemical, physical, and/or biological processing, especially for analyzing or
synthesizing substances, which has a supply unit (56) necessary for providing
the potential necessary to move substances corresponding to the microfluid
structure, and the supply unit has supply lines (58, 59) to transmit the potential to
10 the microchip (52) that interact with the supply elements (53) which correspond to
the microfluid structure,

characterized by

- 15 an interface element (57) releasably connected between the supply unit (56) and
the microchip (52) to connect and/or bridge the supply lines (58, 59) with the
supply element(s) (53) that correspond to the microfluid structure.
2. A device according to claim 1, characterized in that the interface element (57)
has electrodes (58) or channels (59) to supply the microchip (52) with electrical,
20 mechanical or thermal energy or the like that generates the potential required for
the microfluid movement of the substances on the microchip (52).
3. A device according to claim 2, characterized in that the channels (59) serve to
supply the microchip (52) with mechanical energy to feed a pressurized medium,
25 especially a gaseous substance or a liquid.
4. A device according to one or more of claims 1-3 with supply means (56) to supply
the microchip (52) with at least some of the necessary substances for processing
or analysis, characterized in that the interface element (57) has channels (61) to
30 supply the microchip (52) with these substances.
5. A device according to claim 4, characterized by seals at the ends of the channels
(61) of the interface element (57) to prevent the substances from exiting.

6. A device according to one or more of the prior claims, characterized in that the interface element (57) is formed by a substrate especially made of a ceramic or polymer material in which the electrodes (60) and channels (61) are embedded.
- 5 7. A device according to one or more of the prior claims, characterized in that the interface element (57) is releasably attached to the supply unit (56).
8. A device according to claim 7, characterized in that the interface element (57) can be affixed to the supply unit (56) with a bayonet lock (74-76).
- 10 9. A device according to one or more of the prior claims, characterized by a first coding means on the interface element for identifying the interface element (57) that interacts with a corresponding second coding means on the supply unit (56) and/or the microchip (52).
- 15 10. A device according to one or more of the prior claims, characterized in that the microchip (52) is in a first assembly (50), and the supply unit (56) as well as the interface element (57) are in a module releasably connected to a second assembly (55).
- 20 11. A device according to one or more of the prior claims, characterized by a magnet/Hall sensor pair (68, 69) to recognize or identify the second assembly (55) or determine the presence of a module (cartridge) (70) in the second assembly (55), and a shut-off device or warning device that works with the magnet/Hall sensor pair (68, 69).
- 25 12. A device housing with a device according to one or more of the prior claims, characterized by an interface element corresponding to one of the prior claims.
- 30 13. An interface element for use in a device or device housing according to one or more of claims 1-12.